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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,819	10/23/2003	Satoshi Ogata	61282-038	5430

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600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

PAUL, DISLER

ART UNIT	PAPER NUMBER
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2615

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/690,819	Applicant(s) OGATA, SATOSHI	
	Examiner Disler Paul	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 1, 2 and 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/2/05 and 10/23/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 1-2,4 are objected to because of the following informalities: applicant is advised to removed the repeated verb "comparing, changing, setting" from the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claim 5 recites the limitation of "the virtual sound source". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

- 3.. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 3,10,14 are rejected under 35 U.S.C. 102(a) as being anticipated by Sasaki ("2003/0118192 A1").

Re claim 3, Sasaki disclose an audio information transforming method applied to a video/audio format in which a screen contains a

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plurality of objects and each object has video information, position information, and 1-channel audio information ("Fig.1-4(6); page 4[0051]/screen with sound/video info and furthermore each object has defined one channel specific info"), said method comprising the steps of: calculating a positional relationship between a basic listening point, which is set as a position at which a listener listens to an audio, and one of the object ("page 1[0007-9]; page 3[0033]"); and allocating the 1-channel audio information to a plurality of audio outputting means based on the positional relationship ("page 3[0030 & 0032; 0039 line 10-16] synthesized signals allocated to multi-channels as results of compared").

Re claim 10, has been analyzed and rejected with respect to claim 3.

Re claim 14, an audio information transforming device for a video/audio format in which a screen contains a plurality of objects and each object has video information, position information, and 1-channel audio information ("Fig.1-4(6); page 4[0051]/screen with sound/video info and furthermore each object has defined one channel specific info"), said device comprising: a means for calculating a positional relationship between a basic listening point, which is set as a position at which a listener listens to an audio, and one of the object ("fig.1 (5,6)-remote and tv processor"); and a means for allocating the 1-channel audio information to a plurality of audio

outputting means based on the positional relationship ("fig.1/(5,7) controller & speakers; ").

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,2,4-9,11-13,15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki ("2003/0118192 A1") and further in view of Kim et al ("6,574,339 B1").

Re claim 1, Sasaki disclose an audio information transforming method applied to a video/audio format in which a screen includes a plurality of objects and each object has video information, position information, and audio information ("Fig.1-4(6); page 4[0051]/screen with sound/video info"), said method comprising the steps of: having a basic listening positions ("fig.1-4(9)"); however, Sasaki fail to disclose of the further limitation wherein the virtual listening point setting of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio. However, Kim et al. disclose of a system wherein the further virtual listening point setting of setting a

virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio ("fig.1,3 (VS); col.5 line 17-20") for the purpose of reproducing 3-D sound to multiple listeners. Thus, taking the combined teaching of Sasaki and Kim et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Kim et al. by incorporating the virtual listening point setting of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio for the purpose of reproducing 3-D sound to multiple listeners.

The combined teaching of Sasaki and Kim et al. as a whole, teach of the above, However, they fail to disclose of the further limitation wherein the comparing a positional relationship between the basic listening point and one of the object with a positional relationship between the virtual listening point and one of the object. However, Kim et al. disclose a system wherein the comparing a positional relationship between the basic listening point and one of the object with a positional relationship between the virtual listening point and one of the object ("Kim,col.5 line 48-67 with eq.(2,3),/comparison with source object calculated see line 65-66") for the purpose of reproducing 3-D sound to multiple listeners regardless of their positions. Thus, taking the combined teaching of Sasaki and kim et al. and new teaching of kim et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Sasaki and old

teaching of kim et al. as a whole, by incorporating the comparing a positional relationship between the basic listening point and the object with a positional relationship between the virtual listening point and the object for the purpose of reproducing 3-D sound to multiple listeners regardless of their positions.

The combined teaching of Sasaki and kim et al. as a whole, further teach of the changing an allocating ratio to a plurality of audio outputting means based on a the compared results in the comparing step ("page 3[0030 & 0032; 0039 line 10-16] synthesized signals allocated to multi-channels as results of compared").

Similarly reclaims 4,8,11 have been analyzed and rejected with respect to claim 1 above.

Re claim 2, Sasaki disclose an audio information transforming method applied to a video/audio format in which a screen includes a plurality of objects and each object has video information, audio information and a virtual source ("Fig.1-4(6); page 4[0051]/screen with sound/video info and virtual source"), said method comprising the steps of: having a basic listening positions ("fig.1-4(9)"); however, Sasaki fail to disclose of the further limitation wherein the virtual listening point setting of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a

listener listens to an audio. However, Kim et al. disclose of a system wherein the further virtual listening point setting of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio ("fig.1,3 (VS); col.5 line 17-20") for the purpose of reproducing 3-D sound to multiple listeners. Thus, taking the combined teaching of Sasaki and Kim et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Kim et al. by incorporating the virtual listening point setting of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio for the purpose of reproducing 3-D sound to multiple listeners.

The combined teaching of Sasaki and Kim et al. as a whole, teach of the above, However, they fail to disclose of the further limitation wherein the comparing a positional relationship between the basic listening point and the virtual source with a positional relationship between the virtual listening point and the virtual source. However, Kim et al. disclose a system wherein the comparing a positional relationship between the basic listening point and the virtual source with a positional relationship between the virtual listening point and the virtual sound source ("Kim,col.5 line 48-67 with eq.(2,3),/comparison with source object calculated see line 65-66; fig.5") for the purpose of reproducing 3-D sound to multiple listeners regardless of their positions. Thus, taking the combined teaching of

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Sasaki and kim et al. and new teaching of kim et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Sasaki and old teaching of kim et al. as a whole, by incorporating the comparing a positional relationship between the basic listening point and the virtual sound source with a positional relationship between the virtual listening point and the virtual sound source for the purpose of reproducing 3-D sound to multiple listeners regardless of their positions.

The combined teaching of Sasaki and kim et al. as a whole, further teach of the changing an allocating ratio to a plurality of audio outputting means based on a the compared results in the comparing step ("page 3[0030 & 0032; 0039 line 10-16] synthesized signals allocated to multi-channels as results of compared").

Similarly reclaim 9 has been analyzed and rejected with respect to claim 2 above.

Re claim 5, the audio information transforming method according to claim 1, further comprising a step of: adding direction information to the virtual listening point ("col.5 line 40-44; fig.3/virtual listening point has directional info").

Re claims 6-7 have been analyzed and rejected with respect to claim 5 above.

Re claim 12, Sasaki disclose an audio information transforming device for a video/audio format in which a scene reproduced on a screen is constructed to contain objects and each object has video information, position information, and audio information ("Fig.1-4(6); page 4[0051]/screen with sound/video info"), said device comprising: a basic listening positions ("fig.1-4"); However, Sasaki fail to disclose of the further limitation comprising a means for deciding a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio. However, kim disclose a system wherein the further limitation comprising a means for deciding a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio ("fig.3; col.5 line 10-20") for the purpose of reproducing 3-D sound to multiple listeners. Thus, taking the combined teaching of Sasaki and now kim as a whole, it would have been obvious for one of the ordinary skill in the art to modify Sasaki by incorporating the further limitation of a means for deciding a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio for the purpose of reproducing 3-D sound to multiple listeners.

The combined teaching of Sasaki and Kim as a whole, further teach of the mean of comparing a positional relationship between the basic listening point and one of the object with a positional relationship between the virtual listening point and one of the object ("Kim, col.5 line 48-67 with eq. (2,3),/comparison with source object calculated see line 65-66 with the processors (fig.4)") and the means for changing an allocation ratio of an audio to a plurality of audio outputting means based on a result of the comparing means ("fig.1-4(5,7-8), controllers & speakers").

Re claim 15 has been analyzed and rejected with respect to claim 12.

Re claim 13, Sasaki disclose of an audio information transforming device for a video/audio format in which each scene produced on a screen has video information, audio information, and a virtual sound source ("Fig.1-4(6); page 4[0051]/screen with sound/video info and virtual source"), said device comprising: a basic listening point ("fig.1-2 (9)"), However, Sasaki fail to disclose of the further limitation wherein the means for deciding a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio. However, Kim disclose a system wherein the further limitation comprising a means for deciding a virtual listening point at a position different from a

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basic listening point that is set as a position at which a listener listens to an audio ("fig.3; col.5 line 10-20") for the purpose of reproducing 3-D sound to multiple listeners. Thus, taking the combined teaching of Sasaki and now Kim as a whole, it would have been obvious for one of the ordinary skill in the art to modify Sasaki by incorporating the further limitation of a means for deciding a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio for the purpose of reproducing 3-D sound to multiple listeners.

The combined teaching of Sasaki and Kim as a whole, further teach of the mean of comparing a positional relationship between the basic listening point and one of the virtual source with a positional relationship between the virtual listening point and one of the virtual source ("Kim,col.5 line 48-67 with eq.(2,3),/comparison with source object calculated see line 65-66 with the processors (fig.4) and fig.5") and the means for changing an allocation ratio of an audio to a plurality of audio outputting means based on a result of the comparing means ("fig.1 (5,7,8) controller & speakers").

Re claim 16, the audio information transforming device according to claim 12, wherein the virtual listening point ("fig.3; col.5 line 40-44").

Re claims 17-18 have been analyzed and rejected with respect to claim 16 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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